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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,004

05/21/2007

Takashi Nakai

09852/0204420-USO

1629

7278

7590

12/15/2008

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EXAMINER

MAI, NGOCLAN THI

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,004	Applicant(s) NAKAI ET AL.	
	Examiner NGOCLAN T. MAI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-2, 4-11 are currently under examination, wherein claims 1, 2, 6-8, and 11 are currently amended in applicant's amendment filed on Aug. 27, 2008. Claim 3 has been cancelled in the same amendment.

Status of Previous Rejection

2. The previous rejections to claims 1-2, 4-7 under 35 U.S.C. 103(a) as being unpatentable over McCall et al and claims 8-11 under 35 U.S.C. 103(a) as being unpatentable over McCall et al in view of Ozaki et al is withdrawn in light of applicant's amendment filed Aug. 27, 2008.

However upon further consideration the claims are rejected as follow.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Rejections - 35 USC § 103

4. Claims 1, 2, 4, 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ozaki et al. (US 20010038802) in view of McCall et al. (U.S. Patent No. 6,001,150).

Concerning claims 1, 4, 5 and 7, in one of the Ozaki et al's invention Ozaki teaches an iron-based mixed powder for warm molding comprising mixture of iron-based powder and a lubricant wherein the lubricant for compacting powder is preferably 0.05 to 0.4% by weight relative to the entire iron-based mixed powder. See [0071] (second part of the paragraph) and [0075]. Ozaki et al teach the lubricant can be at least one kind of lubricant having a melting point higher than a predetermined temperature of the compaction pressure, the at least one

Art Unit: 1793

lubricant can be metallic soaps such as lithium stearate and lithium hydroxystearate. See [0079] and [0080]. Ozaki et al particularly teaches using only lithium hydroxystearate as the high melting temperature solid lubricant in the amount of 0.3% by weight in Table 1-2, Compact No. 13.

Ozaki et al differs from the claim in that Ozaki et al does not teach the average particle diameter of the solid lubricant.

McCall et al teaches solid lubricant for compacting metal powder preferably having particle size below about 100 microns. McCall et al also teaches that particles that are too large can lead to segregation in the admixture or to voids in the sintered parts made from said admixture. See col. 3, lines 57-61. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the lithium hydroxystearate taught by Ozaki et al to have particle size as claimed for the benefits noted by McCall et al.

Concerning claim 2, while Ozaki et al teaches using from 0.05 to 0.4% by weight and also teaches that exceed about 0.4% by weight the compact density is decreased, it would still be obvious to one of ordinary skill in the art to use more than 0.5 % by weight of lubricant if one so desires a lower compact density.

Concerning claims 8-10, Ozaki et al also teaches a warm molding method wherein a mixed of powder of at least two kinds of lubricants, each having a melting point higher than a predetermined temperature for the compaction pressure, is applied to the wall of a preheated die before filling the die with the iron-based mixed powder. See [0043] and [0045]. Note that the limitation "powder of hydroxy fatty acid salt" requires that it contains the name lubricant but does not exclude other type of lubricant.

Art Unit: 1793

Ozaki et al teaches in order to be adhered to the surface of the die with reliability, 90% or more of the lubricants for die lubrication (solid powder) are preferably about 50 microns or less. See 0046. Ozaki et al also teaches the at least two kinds of solid lubricants can be metallic soap such as lithium stearate, lithium laurate, lithium hydroxystearate and calcium stearate. See [0060] and [0061]. Ozaki et al particularly teaches using lithium hydroxystearate as die lubrication in Table 1-1, Compact No. 2, 3 and 6. While Ozaki et al does not specifically teach warm molding employing the combination of the iron-based mixed powder comprising lubricant powder which consist of lithium hydroxystearate and lithium hydroxystearate as die lubricant, however, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the iron-based mixed powder and the die lubricant proportions taught by Ozaki et al overlap the instantly claimed warm molding raw material powder and the die lubricant and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to combine iron-based mixed powder and die lubricant of the disclosed ranges including the instantly claimed mixed iron-based powder and die lubricant from the list of material disclosed in the prior art reference. See MPEP 2144.05.

Concerning claims 6 and 11, Ozaki et al does not teach 12-hydroxy lithium stearate, however it is conventionally known in the art that 12-hydroxy lithium stearate is normally used as solid lubricant in metallurgy powder for die compaction. See McCall, column 1, lines 14-34. Therefore the use of conventional type of lubricant to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).

Response to Arguments

5. Applicant's arguments with respect to claims 1-2, 4-7 under 35 U.S.C. 103(a) as being unpatentable over McCall et al and claims 8-11 under 35 U.S.C. 103(a) as being unpatentable over McCall et al in view of Ozaki et al have been considered but are moot in view of the new ground(s) of rejection. See above rejections.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOCLAN T. MAI whose telephone number is (571)272-1246. The examiner can normally be reached on 8:30-5:00 PM Monday-Friday.

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

n.m.